TRAIL & Landscape

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NATURAL HISTORY AND CONSERVATION

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THE OTTAWA FIELD-NATURALISTS' CLUB

- Founded 1879 -

President: Mr. Hue MacKenzie, 228 Royal Ave., Ottawa
Secretary: Mr. A. W. Rathwell, Can. Wildlife Service

Objects of the Club: To foster an acquaintance with and love of nature and to encourage and publish original research in natural history.

Club Publications: THE CANADIAN FIELD-NATURALIST, official journal of the Club, devoted to the publishing of research in natural history. TRAIL & LANDSCAPE, a non-technical publication of general interest to local naturalists.

Field Trips, Lectures and other natural history activities are arranged for local members. See inside back cover.

Membership: Active membership ($5 annual fee) includes subscription to The Canadian Field-Naturalist. An Associate membership ($3 annual fee) is available to local naturalists, entitling them to join in field trips and similar Club activities. All Ottawa Valley members, both Active and Associate, receive TRAIL & LANDSCAPE; other members may receive it on request.

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TRAIL & Landscape

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Editorial

Within the last few decades many people have come to realize that throughout the world far too many wild places, together with the wildlife which they harbour, are being needlessly destroyed. Canada is relatively fortunate in this respect because, with the exception of our more settled areas, much of our land remains to this day in an only slightly altered wild state. However, in the Ottawa valley, as in other populated regions, wilderness areas are becoming fewer and further between. In Great Britain and in the United States there has been a strong awakening of conscience, leading to a change in attitude toward the land and toward the wildlife which it sustains. In these countries an increasing number of persons in all walks of life are becoming concerned with the preservation of many kinds of natural treasures which we in Canada still tend to take for granted. We have much to learn by observing the efforts in these countries and by understanding why these efforts must be made. Conservation is a complex subject, but fortunately it progresses by specific and readily understood efforts of individuals and organizations with limited objectives in view.

With these thoughts in mind we are extremely pleased to be able to offer two special articles in this issue of TRAIL & LANDSCAPE; both have been contributed by persons who have had little or no previous association with our Club. One article deals with the main conservation project of the Ottawa Duck Club and was kindly contributed by one of its members, Ed Narraway. The other contribution, by D.A. Coburn, gives us an outline of the exciting program in natural science education which has now been approved by the Ottawa Public School Board. This program is of vital importance in helping to enrich the lives of our urban school children and in helping to create enlightened attitudes toward the environment. These two efforts in the field of conservation deserve as much of our support as possible. Concerning activities of our own Club in this area, see page 35 and the enclosed circular.

DISTRIBUTION OF THE WHITE TRILLIUM NEAR OTTAWA

Anne and Gary Hanes

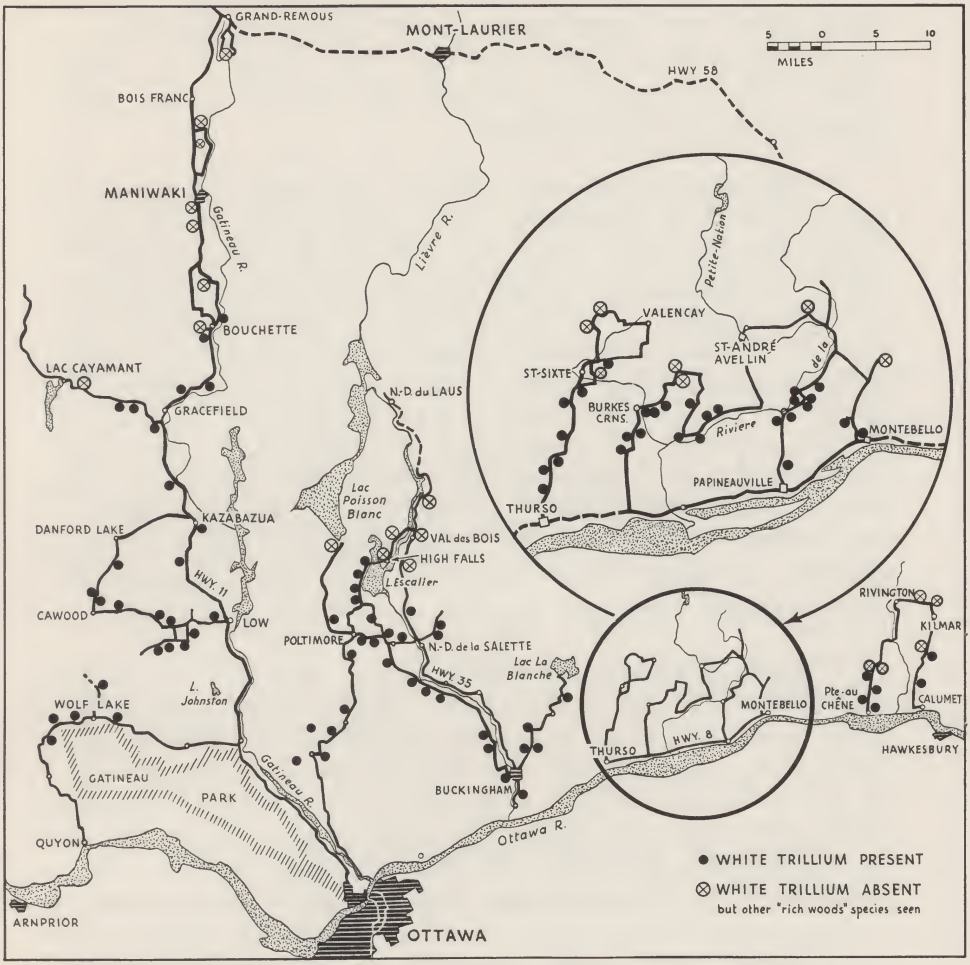
As we happily renew our acquaintance with the spring flora of nearby woodlands, we may wonder why certain flowers we knew from other areas do not seem to be present here. If our curiosity leads us to enquire into this more closely, we find ourselves involved in a study of plant geography. The Ottawa area is particularly interesting in this respect as some of our native plants appear to have the northern limits of their range here or nearby. Some years ago Dr. W.G.Dore, a botanist at the Experimental Farm, suggested that certain spring wildflowers fell into this group, and a start was made by some members of the Ottawa Field-Naturalists' Club on mapping the distribution of each species. For most of these plants there was a suggestion of a distribution limit somewhere to the north or northwest, but not enough was known of the regions beyond the farthest points plotted to draw definite conclusions about their absence there. From this beginning, we were encouraged to pursue the investigation of all plants on the original list, but we will report here only on the results obtained so far for the white trillium.

The white trillium (Trillium grandiflorum) is abundant in woodlands near the city of Ottawa, to the south and east, and throughout most of southern Ontario. James H. Soper, in "The Distribution of Ontario's Provincial Flower" (Federation of Ontario Naturalists Bulletin #92, 1961), presents a distribution map based on specimens, published records and other reliable reports. He says "...this species is widespread from Pelee Island in Lake Erie to the Bruce Peninsula and Manitoulin Island in Lake Huron, eastward to the St. Lawrence and Ottawa Valleys and north to Lake Nipissing. The scarcity of records in the Canadian Shield portion of southern Ontario is chiefly due to lack of data from this region, but it seems likely that the white trillium becomes rarer in the districts approaching the latitude of Lake Nipissing." (i.e. about 46°N.)

Mr. W.K.W. Baldwin, a botanist at the National Museum of Canada, did not find white trilliums in the Clay Belt region of northern Ontario and Quebec (north of 47°N.) during his extensive survey of the area in 1952 to 1954.

In Quebec, it is abundant in the Montreal region and in the lower part of the Ottawa Valley, but its range extends not much beyond Quebec City to the east, and not far north into the Laurentides (Flore Laurentienne, Marie-Victorin, 1935). Marie-Victorin did not find white trilliums during a survey of the new route (now Highway 58) from Mont-Laurier into Parc de la Verendrye, in August, 1941, although he did find three other species of trilliums there. Presumably the white trillium is not present this far north.

Unpublished sight records gathered by members of the Ottawa Field-Naturalists' Club indicated many stations in Gatineau Park and points near its periphery with a northerly record from Lake Johnston, about 20 miles north of Ottawa (see map). There was thus a gap of some 60 miles between the northernmost station known to us at the beginning of our survey, and an area where it was certainly absent. Its absence from Parc de la Verendrye and the Clay Belt region beyond was not unexpected, as these areas are mainly within the boreal forest, a very different habitat from the hardwood stands in which it grows further south.



In the springs of 1965 and 1966 we travelled extensively in the area illustrated on the map and kept careful records of the occurrence of various early spring flowers. The roads shown as solid lines were travelled during the flowering season, so detection of white trilliums was quite effective. Stations where white trillium was found are shown as solid circles (records from lower Gatineau Valley and Gatineau Park have been omitted). The circled crosses indicate woodlands which appeared to us to be suitable habitat for white trilliums, as evidenced by the presence of other spring flowers often associated with it, such as bellwort (Uvularia grandiflora), fawn lily (Erythronium americanum), wild ginger (Asarum canadense), bloodroot (Sanguinaria canadensis) etc. In some cases where no

white trillium is indicated, the habitat was clearly unsuitable and other species of spring wildflowers were absent also. This applies, for example, to open sandy areas between Kazabazua and Danford Lake, and also north of Lac Cayamant.

The most northerly record, one mile northeast of Bouchette on a secondary road quite close to the Gatineau River, is at latitude 46° 15' N., remarkably close in latitude to the Lake Nipissing station given by Soper (1961). In the valley of the Lièvre River, some fifteen miles to the east, the last white trillium is not as far north. It was seen about four miles north of Notre-Dame de la Salette on Highway 35. Continuing north on this road for another twenty-two miles, we saw no more white trilliums. Bellwort, fawn lily and red trillium (T. erectum), plants of the maple forest and frequent associates of white trillium within its range, were found on this route seventeen miles beyond the last station for white trillium.

Between these two main rivers, Dr. J.M. Gillett, a botanist at the Experimental Farm, noted the last occurrence of white trillium two miles northwest of Poltimore, and did not see any in woods north as far as Lac Poisson Blanc. Curiously, we found it abundant along the road following the west shore of Lac Escalier as far as the causeway and road to High Falls. The area north of the causeway remains to be investigated.

Further east, the limit of white trillium range appears to swing south very close to the Ottawa River. In the area north of Highway 8 between Thurso and Montebello, there seems to be a definite edge to the area occupied by white trilliums. By travelling back and forth over the many roads through the area, we crossed and recrossed this apparent boundary. On one side of it white trilliums are plentiful; beyond none are seen in apparently suitable habitat. This line can be seen again, on the accompanying map, crossing the quadrangle formed by roads joining Point-au-Chêne - Rivington - Kilmar - Calumet.

To the northwest of Ottawa, we have traced the occurrence of white trillium as far as Wolf Lake, but the edge of its range in that direction remains unknown to us at present.

Why is the white trillium absent from some woodlands where other spring flowers flourish? So far we have little indication of an answer. In a few areas investigated white trillium grew abundantly in valleys and on lower slopes but was absent from the hill tops. This led to speculation about an 'altitude effect', which might be related to the plant's tolerance to exposure, or alternatively, to some residual effect of coverage of the lower altitudes by the Champlain Sea, following retreat of the glaciers some 10,000 years ago. On the other hand, the situation may not be static as implied above, but the postglacial migration from the south may be still proceeding. To the question 'why is it not found north to Maniwaki?' one could reply that it hasn't got there yet! Other spring wild flowers have travelled faster and farther. This question of continuting migration can only be settled by detailed study of the range over a period of time.

We intend to continue this study in 1967 and would be very pleased to receive additional information, particularly reports of new locations north of those shown on our map.

THE PRESERVATION OF NATURE: WHAT ARE WE DOING?

The Ottawa Field-Naturalists' Club has a commendable record of achievements in the field of natural history in Canada. It appears inevitable, however, that our approach to this subject must increasingly emphasize conservation and the preservation of habitat, because so many of the fundamental characteristics of the natural landscape are being drastically altered by the actions of man.

Council has established a Committee to examine in detail all aspects of the acquisition and preservation of a natural area or areas in this part of Ontario. One of the Committee's main functions, with which it will need help, is to locate areas where suitable land might be acquired. This should be done soon. If you know of such areas, or would be able to help explore the region with this in mind, refer to the enclosed circular outlining our requirements, and giving guidelines for exploration, or contact Ted Mosquin at 684-4989.

Ottawa Public School Board
OUTDOOR NATURAL SCIENCE SCHOOL

D.A. Coburn
Supervisor of Science

Science is no longer a wing or frill subject area. It is rated by all educators as one of the top three academic subjects. There is hardly a university in the country that doesn't count English, Math and Science as being prerequisite to university admission.

The spotlight this year in the Ontario Educational System is on Science. The Department of Education has spent the last few years preparing a refreshing new course in Science for the elementary school level. Emphasis has been placed equally on both the physical and biological disciplines. It is the Natural Sciences that greatly affect the urban child and so I would like to discuss trends in this area. With the increase of industrialism in large urban centres there has disappeared the place for daily intimacy with the out-of-doors. In recent years it has become an alarming fact that an ever increasing number of children have no basic interpretations in the Natural Sciences. This lack of exposure to basic biological phenomena has been corrected by the Department of Education by encouraging and allowing the extension of the classroom to the out-of-doors --- to the unroofed laboratory.

Of course, Science education isn't new, in fact, it goes back to the time of the Greeks; but what is new is the extent of the recognition of its value. It takes place in school time and is an integral part of the school curriculum. It attempts to do those things which can best be done outside the classroom, giving vitality to learning by augmenting the books and visual aids used in the classroom with the real objects in their natural habitats. It also serves by fusing the content of the various school courses of study in a way the classroom seldom attempts.

Outdoor Science education is on the way to becoming an intergral part of the Ontario Educational System. A recent amendment to the Education Act of Ontario enables large urban school boards with student enrolment

of 10,000 and over to purchase land outside the area under its normal jurisdiction for the operation of an Outdoor Natural Science School.

Our piece of land is situated 18 miles east of Ottawa, along the Ottawa River near the village of Rockland. This particular piece of land was carefully chosen for the variety of habitats it offered. Let's examine one habitat in detail and I will try to show you some of the ways in which we would make use of it. Along the waterfront stretches a lush marsh. This is a valuable resource area as it offers a rich abundance of both aquatic and terrestrial life for study. Here is an area that can be used in all seasons, even in winter when temperature gradient studies can be carried out using ice augers, thermometers, lines and metre sticks.

This particular section of the Ottawa River is on one of the major wildfowl migratory routes. In order to attract birds to the area, we hope to receive permission to create a sanctuary and to operate a migratory bird-banding station. Through the use of observation blinds, mist nets and live traps, a city child could experience the thrill at close hand of observing the native wild birds of our country. In this way our students will be actively participating in an important international scientific undertaking. Connected with the ornithological studies, we would like to operate a small aviary where a cross-section of migrant species would be held temporarily for observation and study. A rearing station for pheasant and other upland game birds would be established for their release on the land. Also, a child would learn how to create his own backyard sanctuary by providing natural food and cover.

Other habitats on the land include meadows, forest, maple sugar bush, ravines, streams and fencerows. It is in these wide open spaces where earth and sky predominate that our children can develop an easy relationship with nature. It is here that our children could realize at first hand that they are surrounded by and are a part of the eternal processes of life. Here, it is hoped that they will realize that the mystery of life is not a problem to be solved, but a reality to be experienced and preserved.

SQUEAKING IS AN ART? Monty Brigham

Have you ever wondered, for every bird that you see, how many more there must be that you don't see? Or why it seems to be someone else who is observing these would-be lifers and not you? Consider the fact that some of these 'lucky guys' might have the know-how in bringing shy birds close enough to be observed. This article will outline a few simple techniques that can be used to bring such birds out in the open. 'Squeaking' is one method by which birders can cause sufficient confusion and distress to arouse curiosity in many species.

For best results the squeaker should moisten his lips and the back of his hand, preferably between the knuckles of the middle and index fingers. Then the hand should be clenched and the middle and index fingers extended. The fist is then pressed gently against the lips so as to cover the right side of the mouth (if right hand used) which will result in a single uniform squeaking noise originating from the left side. By inhaling, a squeak may be emitted with controlled volume. The secret is in the pressure by which the back of the hand is pressed against the lips.

From this, at least three techniques have been evolved. First, by moving the fist upwards so that the knuckle of the index finger is centred between the lips, noises of a lower volume can be produced similar to the calls of mice, which are often effective in attracting owls. Secondly, assume the standard position, mouth covering the area between the two knuckles. Loud continuous squeals can be emitted to bring in owls and hawks, notably accipiters, with amazing effectiveness. By far the most fruitful noises are those that indicate anger and/or distress. Using the standard position and vibrating the fist out and in, not up and down, at a rapid speed will produce the desired effect. The resulting commotion should imitate the excitement chickadees and nuthatches produce when disturbed by the presence of a roosting owl. Chickadees will come in and join the squeaker in his 'scolding'. Robins and other birds that normally conceal themselves will come to see what the fuss is about. Quite often the squeaker can stop; the curious and somewhat irritated chickadees will continue working for him.

Before the squeaker starts to 'perform' he should find a suitable cover area, preferably at the base of a tree, where he should squat and remain motionless. Furthermore he should wait so that the excitement of his presence subdues before squeaking. Techniques one and two should be used at the outset, then the squeaking distress calls should be continued until the first birds arrive. Once the birds in the area begin to lose interest, it is time to stop. Note that the curiosity of many birds is easily satisfied, and it becomes difficult to attract the same birds from the same area for the following weeks.

It should be remembered that this type of operation is geared towards birds of prey and many families in the Passeriformes order, not the waterfowl and shorebird populations. With a lot of nerve and a little practice a birder can improve his daily counts twofold and expand his life list as well.

LICHENS OF THE OTTAWA AREA. I.

Irwin M. Brodo, Curator of Lichens
National Museum of Canada, Ottawa.

To the casual observer, lichens are often mentally grouped with mosses, or sometimes algae, or, more rarely, fungi. People I speak to are often baffled by the wide array of forms lichens can take. Can they all be lichens? How can a black smudge on a rock be closely related to the richly branching, shrubby "reindeer moss"? We can only come close to this answer by first attempting to answer another: what is a lichen?

The most significant thing about all lichens is that they are two plants, not one. Each lichen plant body or "thallus" is a biological twosome composed of a fungus living in intimate contact with an alga. The relationship involves much more than the mere contact or even relative position of the constituents; it results in the formation of an entirely new, self-sufficient, functioning unit which gathers raw materials, manufactures food, conducts an exchange of vitamins and growth substances, and often even reproduces as if it were a single plant. In its form and structure, the lichen is different from that of the lichen fungus or the lichen alga if they were growing alone, i.e., in an "unlichenized" state. No lichen fungus has ever yet been definitely found growing naturally in the unlichenized form. Many species of lichen algae, however, are found free-living.

Observers in the Ottawa region can find lichens of all descriptions in a tremendous variety of habitats. There are lobed or "leafy" forms (called foliose lichens); stalked, shrubby, or hair-like forms (called fruticose lichens); and the crust-like forms (called crustose lichens). Most species can be found on soil, boulders, pebbles, tree bark, or wood, but some are confined to submerged rocks in streams, or grow on decaying mosses and heaths, or find themselves along the rocky shores of the ocean growing on barnacle shells. You probably won't find many species close to the center of a city or industrial center because lichens are notoriously sensitive to polluted and dehumidified air.

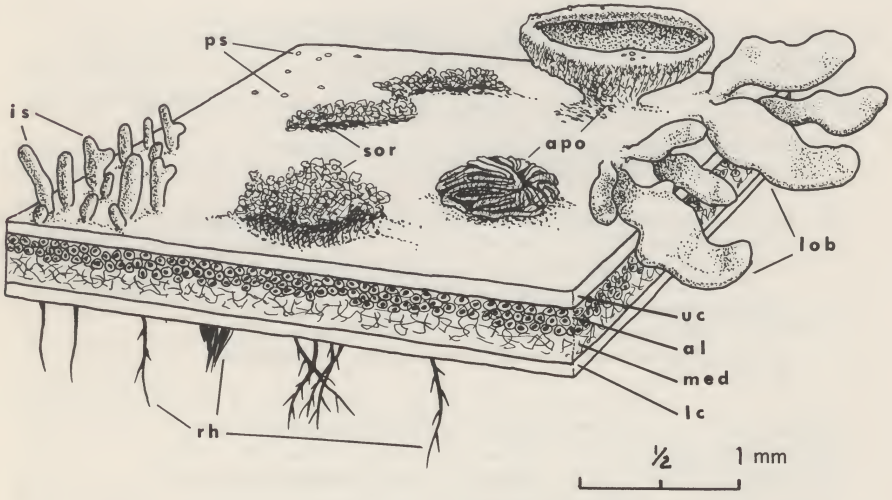
There is a growing interest in lichens these days, and some good identification "keys" are beginning to appear. Most of these keys are fairly technical, however, and none deal specifically with the lichens of the Ottawa area.

In this article and in articles to appear in future issues of T & L, I will present keys to the common lichens of our area using as non-technical an approach as is practical. The first key will cover common foliose lichens (the "leafy" or lobed types which lie flat on the growing surface and clearly have an upper and lower surface). It makes no pretense of being a complete listing of our foliose lichens but is complete enough so that even fairly intensive collecting will probably not turn up many species not included. If you have a lichen that cannot be identified after carefully using the key, the species is rare or new in the Ottawa area, or the key is defective. In either case, I

would like to know about it.

To use the keys most effectively, you will need a good hand lens (about 10x magnification), a small dropper bottle of undiluted bleach (e.g., "Javex"), and a small dropper bottle of household lye (about 10 lye pellets in 1/2 oz. of water). The chemicals are used to test the lichens for the presence of certain lichen substances which are specific to some species. Tests are made by simply wetting the upper surface of the lichen or the "medulla" (see the illustration) with a tiny drop of the chemical. The medulla is exposed by cutting away the overlying cortex and algal layer with a razor blade. The less liquid used in each test, the better. The lye solution is abbreviated "KOH" in the keys (it represents potassium hydroxide, the chemical equivalent to lye), and the bleach solution is abbreviated "C" (standing for the "chloride" part of the chemical name of bleach, sodium hypochlorite). If the appropriate lichen substance is present, a color reaction will occur turning your tested area yellow, orange, or red. When needed, the testing chemicals and the reactions to be looked for are mentioned in the keys.

All of the technical terms used in the keys are underlined and explained or defined the first time they are used. In addition, almost all the terms referring to structural features are illustrated in the line drawing which follows. If a puzzling technical term is encountered, check the illustration and then quickly run through the key to find where the word is underlined and explained.



generalized approximate scale

Composite drawing of some features of a foliose lichen

al, algal layer; apo, apothecia; is, isidia; lc, lower cortex; lob, lobules; med, medulla; ps, pseudocyphellae; rh, rhizines; sor, soredia; uc, upper cortex

Key to common foliose lichens of the Ottawa area

1. Plant body (thallus) orange, yellow, or yellow-green . . . . . 2.

1. Thallus grey, grey-green, brown, or olive, without yellowish tint of any kind . . . . 7.

2. Thallus orange or yellow-orange, upper surface KOH+ dark red-purple . . . . . 2a.

2. Thallus yellow or yellow-green, upper surface KOH- . . . . . 3.

2a. Underside of the tips of the thallus lobes with abundant powdery granules (soredia), the lobes often becoming hood-like; apothecia (see below) absent. Common on roadside trees and elms, sometimes on rocks . . . . . Xanthoria fallax

2a. Soredia entirely absent; lobes small, narrow, often finely divided; cup- or disk-shaped fruiting bodies (apothecia) with orange cups almost always present, and usually abundant. Fairly common on trees, especially poplars and aspens . . . . . Xanthoria polycarpa

3. Thallus bright lemon-yellow, not yellow-green; lobes very finely divided (less than 1 mm across) and often with yellow granules all along margins; thallus sometimes becoming reduced to a yellow granular crust. Common on roadside trees, elm, ash, etc. . . . . Candelaria concolor

3. Thallus yellow-green, without yellow granules along margins lobes generally over 2 mm across . . . . . 4.

4. Medulla of thallus (see illustration) KOH+ yellow becoming red. On rocks . . . 5.

4. Medulla KOH-. On tree bark, or, rarely, on rock . . . . . 6.

5. Thallus covered with tiny cylindrical or coral-like outgrowths (isidia). Not common . . . . . Parmelia plittii

5. Thallus with no isidia on surface. Very common . . . . . Parmelia stenophylla
[Note: Both the above species have pale tan to light brown undersurfaces; if the undersurface of the thallus is dark brown to black, it is something else.]

6. Thallus with few root-like strands (rhizines) on undersurface; margins of lobes covered with fine powdery soredia. On bark (usually conifers) and old wood; common . . . . . Cetraria oakesiana

6. Thallus with abundant rhizines on undersurface. Soredia never on lobe margins, but often occurring in circular mounds on thallus surface. Very common, especially on tree bases, but sometimes on rocks . . . . . Parmelia caperata

7. Thallus, when wet, appearing translucent and gelatinous, dark brownish-green or blue-green; when dry, thallus is brown-grey to slate grey. Algae distributed throughout thallus. Generally growing over and among mosses in shaded habitats . . . . . 8.

7. Thallus never gelatinous when wet. Algae confined to a definite algal layer (see illustration) . . . . . 9.

8. Thallus with blue-grey, thin, smooth, rounded lobes, more or less covered with cylindrical isidia. Common . . . . . Leptogium cyanescens

8. Thallus with brown-grey finely divided lobes, distinctly wrinkled, thallus margins with many outgrowths and lobules. Uncommon, but sometimes locally abundant, especially among mosses over calcareous (e.g., limestone) rocks . . . . . Leptogium lichenoides

9. Algal layer appearing dark blue-green when exposed. Thallus brownish-grey to brown when dry . . . . . 10.

9. Algal layer appearing grass green when exposed . . . . . 14.

10. Soredia or isidia present; thallus small or large . . . . . 11.

10. Soredia and isidia absent; thallus generally very large, with lobes commonly over 8 mm across . . . . . 12.

11. Thallus usually small, with lobes not more than 5-8 mm across, usually deeply concave, with distinct circular, pale grey patches of soredia. In dry, exposed habitats . . . . . Peltigera canina var. spuria

11. Thallus very large, lobes broad (commonly over 8 mm across), flat, covered with tiny, loosely attached, cylindrical to almost globular isidia or granules. Over soil in shaded habitats . . . . . Peltigera evansiana

12. Undersurface of thallus mostly brown, with scattered white patches; veins or vein-like ridges not evident; upper surface of thallus smooth and shiny throughout . . . . . Peltigera polydactyla

12. Undersurface of thallus mostly white, with distinct white or brown veins or vein-like ridges. Thallus dull, often with a vague fuzz (tomentum) over surface, particularly near lobe tips . . . . . 13.

13. Lobe margins distinctly thickened, and curled inward (when dry). In dry habitats on soil; common . . . . . Peltigera canina var. rufescens

13. Lobe margins not thickened or conspicuously curled inward. In moist or shaded habitats over moss, logs, or humus . . . . . Peltigera canina var. canina

14. Growing on submerged or partially submerged rocks in flowing water. Thallus greenish when wet, brown when dry, consisting of small, crowded lobes; undersurface smooth. Common . . . . . Dermatocarpon fluviatile

14. Not growing on submerged or partially submerged rocks . . . . . 15.

15. Thallus large, circular, flat, attached to substrate at a single, central point, brown to brown-grey. On rocks . . . . . 16.

15. Thallus attached to substrate over the greater portion of its lower surface . . . . . 18.

16. Thallus distinctly pustulate with each wart on the upper surface having a corresponding depression on the lower surface; under surface smooth . . . . . Umbilicaria papulosa

16. Thallus surface more or less smooth, not pustulate . . . . . 17.

17. Undersurface covered, for the most part, with a thin but dense mat of black rhizines, plates of tissue sometimes also present; apothecia absent . . . . . Umbilicaria mammulata

17. Undersurface with overlapping reticulate plate-like tissues radiating from attachment point, rhizines absent or very sparse; black fruiting bodies (apothecia) with irregular ridged and furrowed surfaces usually conspicuous . . . . . Umbilicaria muhlenbergii

18. Thallus lobes having large (up to 4 mm in diameter) brown disks of fruiting bodies (apothecia) sunken into depressions. On mosses and soil over limestone rock; uncommon . . . . . Solorina saccata

18. Thallus lobes without apothecia sunken into depressions . . . . . 19.

19. Thallus lobes inflated and hollow, the tips bursting and revealing granular soredia in hood-shaped structures. Very common on tree bark, twigs, and wood . . . . . Hypogymnia physodes

19. Thallus solid . . . . . 20.

20. Thallus with granular or powdery soredia, or isidia (not lobules, which are clearly flattened in most cases) . . . . . 21.

20. Thallus without soredia or isidia, but sometimes with lobules . . . . . 32.

21. Isidia present . . . . . 22.

21. Soredia present . . . . . 23.

22. Thallus with tiny white dots (pseudocyphellae) over surface; isidia distributed evenly over most of thallus surface; undersurface pale tan; medulla C+ red, KOH-. Very common on trees, sometimes on wood . . . . . Parmelia rudecta

22. Thallus without pseudocyphellae; isidia mostly confined to a net-like system of ridges over the surface; undersurface black in center; medulla C-, KOH+ yellow becoming red. Common on trees and rocks . . . . . Parmelia saxatilis

23. Soredia mostly on lobe margins or tips, occasionally on thallus surface as well . . . . . 24.

23. Soredia in patches on thallus surface, not on margins or tips . . . . . 29.

24. Lobes broad, rounded (up to 6 mm across), thallus usually showing pseudocyphellae; medulla C+ red. On rocks or on moss over rocks, usually in shaded habitats . . . . . Parmelia olivetorum

24. Lobes narrow, rarely over 2-3 mm across; without pseudocyphellae; medulla C- . . . . . 25.

25. Thallus light grey to pale grey-green; upper surface KOH+ yellow . . . . . 26.

25. Thallus dark olive-, brown-, or grey-green; upper surface KOH- . . . . . 28.

26. Tips of lobes forming distinct hood- or helmet-shaped structures filled with granular soredia; long hair-like appendages (cilia) usually conspicuous at tips of lobes. Common on trees, especially roadside trees, as well as limestone rocks . . . . . Physcia adscendens

26. Tips of lobes not hood- or helmet-shaped; marginal cilia absent . . . . . 27.

27. Soredia fine and powdery, almost entirely on the undersurface of the slightly broadened tips of the lobes forming a "lip-shaped" or labriform structure; lobes not finely divided. Uncommon; usually on rocks, but occasionally found on roadside trees, especially elms . . . . . Physcia dubia

27. Soredia coarse, grading into granules, mostly confined to the edges of the lobes; lobes very finely divided. Very common; on tree bark, especially that of elm, poplar and ash . . . . . Physcia millegrana

28. Lobes with a distinct white "frosting", (pruina), especially at tips; dark grey to brownish, medulla white. Very common, especially on roadside trees, occasionally on rocks . . . . . Physcia grisea

28. Lobes without pruina; usually dark green or dark grey-green; medulla white or brilliant orange. Very common on bark, wood, or limestone rocks . . . . . Physcia orbicularis

29. Soredia along net-like ridges over thallus surface, medulla white, KOH+ yellow becoming red. Extremely common on trees of all kinds, wood, and occasionally rocks . . . . . *Parmelia sulcata*

29. Soredia in circular or irregular patches . . . . . 30.

30. Thallus distinctly brown or olive-brown, very thin; medulla C+ red. Common on tree bark . . . . . *Parmelia subaurifera*

30. Thallus grey, grey-green, or dark green; medulla C- . . . . . 31.

31. Thallus pale grey, upper surface KOH+ yellow; medulla pale yellow, KOH- or + pale yellow; soredia confined to surface, never on margins. On tree bark. . . . . *Parmelia aurulenta*

31. Thallus dark green or grey-green, upper surface KOH-; medulla white and KOH-, or orange and KOH+ dark red-purple (see couplet 24) . . . . . *Physcia orbicularis*

32. Thallus grey or grey-green, upper surface KOH+ yellow . . . . . 33.

32. Thallus brown, dark olive, or dark green (not grey), upper surface KOH- . . . . . 36.

33. Undersurface black at center, dark brown at edges; medulla usually pale yellow, at least close to algal layer, KOH+ dark yellow to orange. On tree bark, not common . . . . . *Parmelia galbina*

33. Undersurface pale tan to white throughout . . . . . 34.

34. Pseudocyphellae usually conspicuous on thallus surface; main lobes broad, 2 to 5 mm across, but tiny lobules are common over the entire thallus; large, chestnut-brown, shiny, deeply concave apothecia common; medulla KOH-. On tree bark, not common .. *Parmelia bolliana*

34. Pseudocyphellae absent; lobes mostly narrow, 1-3 mm, slightly flaring at tips; lobules absent; apothecia 1-2 mm in diameter, flat to slightly concave, dark brown to almost black, often frosted with pruina . . . . . 35.

35. Medulla KOH+ yellow. Very common on trees, especially roadside trees . . . . . *Physcia aipolia*

35. Medulla KOH-. Uncommon, on trees . . . . . *Physcia stellaris*

36. Tiny, black, flask-shaped structures (pycnidia), common along thallus margins, some also occurring on surface close to margin; apothecia, when present, produced at the margin. Uncommon, especially on twigs and bark of pines and other conifers in exposed habitats . . . . . *Cetraria crispa*

36. Pycnidia absent, or, if present, not along margins . . . . . 37.

37. Lobes broad (2-5 mm across), very thin, often very rough and wrinkled, especially close to center of thallus; isidia-like lobules not present; color when dry usually brownish-olive. Uncommon, on tree bark. . . *Parmelia olivacea*

37. Lobes very narrow, finely divided and branched giving rise to crowds of isidia-like lobules over most of thallus including the margins of the apothecia; color, when dry, dark green to olive, sometimes somewhat brownish. Uncommon, on tree bark . . . . . *Anaptychia palmulata*

ONTARIO NEST RECORD CARDS: Amateur ornithologists should now obtain cards and contribute data to a continent-wide study of breeding biology of birds. Objective of the project is to obtain data on breeding success, season, clutch size, nest site and habitat. An important aspect is to discover reproductive trends in those species being seriously poisoned by DDT, dieldrin and other persistent chemicals. In some areas Bald Eagle, Osprey, Kingfisher and gulls are being literally poisoned into extinction. Grebes, herons and hawks, whose food sources are also being degraded by poisonous chemicals, are showing sharp increases in levels of pesticides in their tissues. The possibility of many extinctions cannot be excluded if present trends continue. Data on birds, even common ones, are vitally needed to assess trends in breeding success by statistical analysis. Naturalists across Canada can assist an international project with deep implications for natural history and conservation. Obtain cards from Bill Holland, 234-6705.

GEESE A GO-GO ! or, Battle Trained Canada Geese

Ed Narraway

BANG-BANG -- Another gone goose? It ain't necessarily so! It could have been a clean miss or it could have been the new project at Shirley's Bay.

The Ottawa Duck Club has undertaken as their main conservation project, the improvement and development of the Shirley's Bay Sanctuary as a home for ducks and geese. The key move in the project is to establish a captive flock of Canada Geese as decoys for their migrating relatives. The area chosen is the pond immediately behind the 100-yard butts of the rifle range. The pen will include a small portion of the pond, part of the drainage ditch and about an acre of good grazing land. The geese (three mated pairs, as a starter) have been ordered and the pen has been built. The area near the pen includes Shirley's Bay and approximately 600 acres of good agriculatural land.

The entire setup is ideal ! Because of its location behind the butts, there is no trespassing. The hammer of rifles and machine guns is not expected to worry the Canada Geese but should be a deterrent to any poacher -- especially since the No Trespassing ban is also rigidly enforced by the Dept. of National Defence. It is also proposed to plant as much of the 600 acres into corn, clover and other choice foods for geese as finances (and scrounging) will permit.

With decoys to attract them, lots of food to eat, Shirley's Bay to rest on, and no hunting allowed, the Canada Goose population in the area should show an immediate increase. It happened at St.Lawrence Park -- why not here?

The cooperation of the Dept. of National Defence, Canadian Wildlife Service, Ontario Dept. of Lands and Forests and local merchants has been marvellous.

Much of Shirley's Bay has taken on a look of Cape Kennedy because of another portion of the conservation work of the Ottawa Duck Club. During the past winter, 100 specially designed Wood Duck boxes were built and erected along Shirley's Brook and in Shirley's Bay. These nest boxes resemble miniature moon rockets with their aluminum bodies and conical hats. If the Wood Duck, Bufflehead, Whistlers and mergansers (all use nesting boxes) don't like them, the Ottawa Duck Club proposes to fill them with rocket fuel and invade Mars!

Let's Go Birding --- in THE RAMSAYVILLE AREA

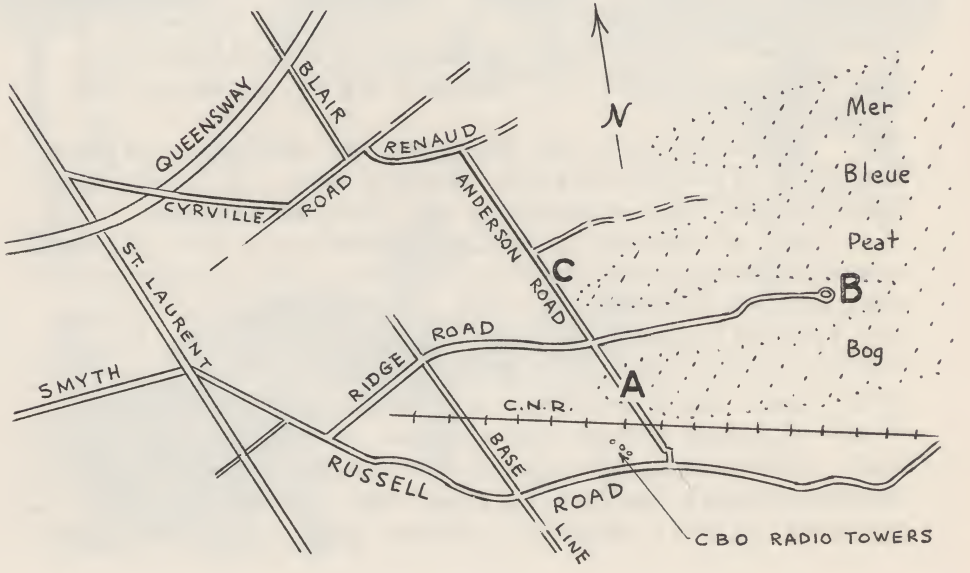
George McGee

Ottawa birders are fortunate in having a number of excellent birding areas within a short driving distance of the city centre. One of these, the RAMSAYVILLE MARSH area, lies mainly within the NCC Green Belt on the eastern side of the city bordering Mer Bleue, a unique peat mire well known to Ottawa naturalists.

This area offers a fine variety of habitat ranging from swamp lying along the edge of the ANDERSON ROAD (County Road 42; also marked '27' at Russell Road!), through open fields, to the wooded ridges which penetrate into the western edge of Mer Bleue proper.

Mer Bleue is shown on the NCC map, obtainable at cigar stores, price 75¢; map reference I-20. The Marsh is easily approached via Russell Road, then left on Anderson; or from the north via Cyrville Road, right on Renaud, and right again on Anderson. Distance - less than ten miles from the Parliament Buildings.

The varied habitat offers choice birding places; three which I particularly favour are shown on the following sketch map as A, B, and C.



SITE A : Open marsh including the drainage ditch lying along the east side of the Anderson Road. A favourite spot for ducks in early spring, it has the advantage that, in inclement weather, one can get a creditable list from the comfort of the car. Look for Canada Geese, Pintails, Shovelers, and the more common Black Duck, Mallard and Teal, mid-April to mid-May; a little later, Rails, Gallinules, Bitterns, Long-billed Marsh Wrens. In particular watch and listen for the Common Snipe in his characteristic courtship flight. This is a good spot for Yellowthroats, Swamp Sparrows, many members of the Blackbird family and other species which enjoy marshy area.

It is a safe bet that newcomers will find members of the OFNC at the site bright and early every weekend morning during May; later check sites B and C. If unacquainted speak up; birders are most friendly types.

SITE B : At the eastern end of Ridge Road park your car at the turn around. Look to the north over the edge of the ridge and across the mire for Marsh Hawks and along the edge for a variety of sparrows, thrushes and other perchers. In the sandpits to the east look for Bank Swallows. Next walk across the field to the southerly edge of the ridge. Watch for hawks over the marsh in migration season, and continuing over the edge of the ridge, look for Short-billed Marsh Wrens along the marshy edge of the small drainage ditch which parallels the ridge.

SITE C : Park your car well over to the side of the road here and lock it. Good birding for warblers etc. in migration; check the mixed poplar-spruce stands on both sides of the road. This is one of the best spots in the area to look for Woodcock. In the spring, just about dusk, sit quietly in your car. You will be able to pick up the chippering flight sounds and the unmistakable 'razzberry' of the male in his established territory. Listen also for the Whippoorwill, one of the best spots to add this interesting bird to your list.

* * *

Our Business Manager reports that he still has several copies of Earl Godfrey's BIRDS OF CANADA for sale, price $12.50. Phone Mr. Cody at 994-5620 or 728-4077.

Conservation News...

MINISTER SUGGESTS FORMATION OF A NATIONAL NATURE TRUST

Addressing the Canadian Audubon Society's annual meeting in Toronto, the Honourable Arthur Laing, Minister of Indian Affairs and Northern Development, suggested the formation of a National Nature Trust, which would purchase or accept donations of land "which would be of value in the preservation of wildlife habitat." At present some machinery exists for accepting gifts to the Crown, but in the context of wildlife habitat, game preserves and sanctuaries, there is no procedure spelled out. Mr. Laing said "We should think about whether we can extend our trustee role so that those who own nature preserves...bird sanctuaries and such can be certain that these valuable assets are preserved for generations to come."

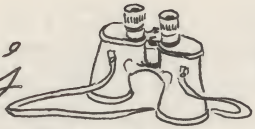
Mr. Laing outlined another useful function that a National Nature Trust might serve. This would be to preserve undisturbed samples of all the different sorts of Natural Areas included in our vast and varied country. The National Parks and some Provincial Parks meet this need. But many gaps are evident, especially in the more settled areas. Parts of these natural areas would be devoted to interpreting the significance of their sort of natural community in the history and development of Canada. The areas could contain a museum, nature centre and nature trails. Large portions of these natural areas would, however, serve as living museums by preserving the natural environment without which many of our more retiring native animals will not be able to survive in the future.

...T.M.

CONSERVATIONISTS WIN A POINT ! The $8 million gypsum wallboard plant scheduled by Georgia-Pacific Corp. to serve northeastern markets must find another site. Little Stony Point on the Hudson River near Cold Spring, N.Y., was considered by various influential groups to be too attractive for industrial development.

(from ROCK PRODUCTS February 1967)

Explorer's Corner



About half way along Meach Lake, the old McCloskey Road, now a walking trail, comes down the hillside from the mountaintop. Less than half a mile up, there is a forking, where MacDonald Road branches off to the right. The main (left) trail climbs directly to McCloskey's Clearing on the height of land between the Ottawa and Gatineau watersheds.

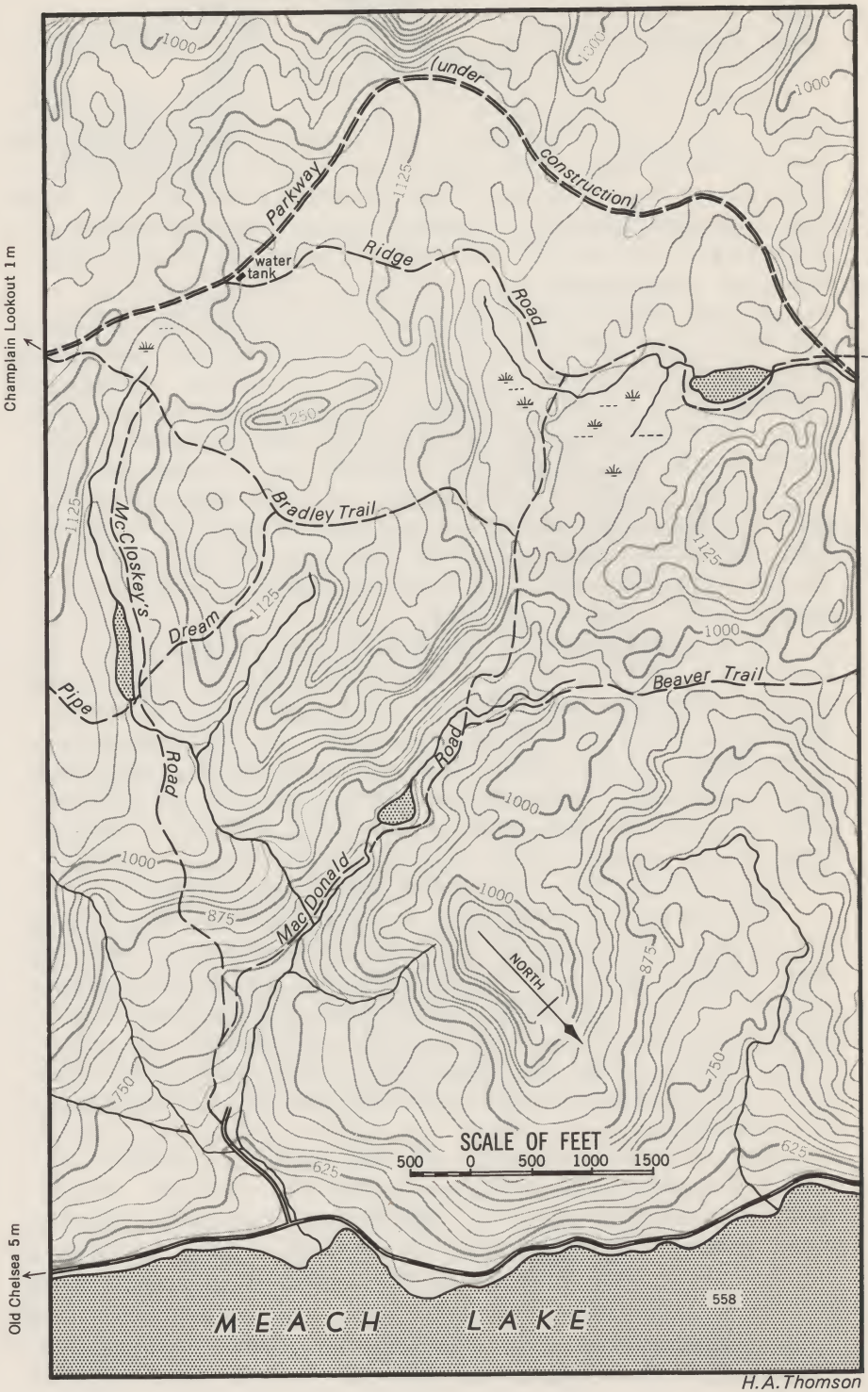
If you are tempted to follow the abandoned MacDonald Road, you may get wet feet, but its good exploring. The old road climbs in the trough of a deep valley, in company with a little stream. Here you will find two-lined salamanders hiding under the wet boulders. The rocks along the stream are covered with mosses and lichens and ribbons of liverwort. In the weeds around grow a surprising number of ferns. Maiden hair, lady-fern, woodfern and Christmas fern, polypody on the rocks, sensitive fern in the wet spots....you will easily find a dozen or more.

At a clearing with the ruins of an old cabin, the trail crosses the creek and leaves it behind, travelling southwestward through hill country, and then through beaver floodings and stands of evergreens to Ridge Road. Just before the beaver country, Bradley's Trail leads off through the open hardwoods to McCloskey's by way of the Bradley Clearing, where an apple tree or two is all that is left to remind us of the pioneer family who once made their home here.

McCloskey's Clearing is a pleasant spot for browsing naturalists. It is good bluebird country, and the open meadows are a favourite grazing ground for deer. Yellowthroats sing from the willows along the creek, and Indigo Buntings like the tall treetops. If you have brought along Dr. Hogarth's guide, you can spend an absorbing hour or two working over the geology of the clearing.

West of the clearing, you may want to explore the rock cuts along the partly-constructed parkway, where blasting has exposed blue amphibole, rosy pink calcite, black mica, fist-sized chunks of fool's gold...a fascinating place, even for those of us who know little about rocks but like the colourful ones. A favourite rock cut, about a mile and a half west of McCloskey's, has silvery flakes of molybdenite scattered over the roadbed.

McCLOSKEY'S ROAD



H.A. Thomson

Several trails lead from McCloskey's (see map). McCloskey's Road itself is a good choice for the return trip. Along the upper part of the trail there are stands of bloodroot, marsh marigold, blue violet, large white Canada violet with purple-backed petals, Jack-in-the-pulpit, and of course, white trilliums. This is a cool hillside and its flowers are late-blooming.

Not far from the clearing, the road borders a long beaver pond, a good place to sit quietly listening, while you watch for beaver activity around the lodge. There are spotted newts and leopard frogs in the pond. You may see a mink playing along the dam, or a pair of buffleheads floating on the water. You should hear the loud ringing song of the waterthrush (there's one on every beaver pond in the Gatineau) and perhaps an olive-sided flycatcher.

Below the pond, the road leads downward through pleasant hardwoods where scarlet tanagers and vireos sing throughout the day. If you are making your descent at evening, you will be treated to the music of veeries and hermit thrushes.

Just remember that June is blackfly season in the bush. It's best to do your exploring in May, when spring flowers are at their peak and the birds are in full song.

...S.C.T.

Let's look at Gatineau Park

Pick up your wildflower guide one day this spring, and head off into Gatineau Park in search of those early wildflowers that yesterday's children used to find on wooded city lots. It is a disturbing thing to have to acknowledge that spring wildflowers are no longer part of the Ottawa child's heritage. So take along your children, or your neighbour's children, remembering that it is our generation that has removed the last patches of natural landscape from their world.

In April the golden saxifrage has already appeared in the icy meltwaters. Soon the first dogtooth leaves begin to spear the ground. In the few short weeks that follow, a whole group of early wildflowers appear and disappear again for another year.

Most fleeting of all is bloodroot, whose creamy flowers have already dropped their petals by mid May.

If you break the rootstock, or indeed any part of the plant, you will stain your hands with the bright orange milk that oozes out. Indians knew and used it as a dye.

Almost as short-lived as bloodroot is hepatica. Occasional clumps with deep blue or mauve flowers are found, although most are only faintly tinged with colour. Two kinds of hepatica grow in Gatineau Park. The plants on the Kingsmere slopes seem to be mostly the acute-leaved type, while in some areas (east of Meach Lake, for example) the kind with rounded leaf-lobes is more common.

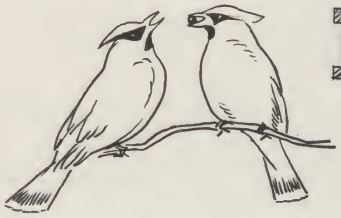
The yellow dogtooth violet (really a lily) grows throughout the Park. Attempts have been made to persuade us to drop the ugly misnomer, dogtooth violet, in favour of fawn lily or trout lily. But folk names die hard. Curiously, some of the plants have brick red stamens while others are yellow-stamened. A clear yellow spider sometimes lurks in the depths of the yellow dogtooth. And often one finds in these flowers a little beetle marked with a brick red colour that matches the brick red stamens....enough to make one wonder just how the colour scheme came about, and what kind of bargain was struck between plant and insect.

There are spots in Gatineau Park where spring beauty thickly carpets the ground. The flowers are dainty, with pink candystripe lining and orchid-coloured stamens. If you think you see yellow stamens, look again. Each petal bears a small yellow spot, a sort of imitation stamen patch, put there, one wonders, to fool what, or whom?

Dutchman's breeches is a charming little wildflower that decorates the rocky hillsides. Its cream-coloured flowers, tipped with yellow, look like little pairs of breeches hanging upside-down along the curving stalk. It is sometimes confused with squirrel corn, but the flowers of squirrel corn are heart-shaped, and tipped with purple. Squirrel corn gets its name from the yellow nodules on its roots.

Look, too, for clumps of tiny white violets that are fragrantly perfumed, wild ginger with maroon flowers hiding beneath its leaves, blue cohosh and yellow bellwort, dwarf ginseng, goldthread, mitrewort and others.

Unless a flower is really abundant, resist the temptation to pick it. And remember never to touch the ones that grow within sight of the trail; other folk who pass this way will want to enjoy them too. ..S.C.T.



Members' Exchange

A CLEAN BREAST OT IT ! Herbert Groh has a confession to make, and he gives us a revealing glimpse of our Club early in the century. "...a favourite outing of the Field-Naturalists was to Fairy Lake...On one such occasion Rev. G. Eifrig spied the nest of a red-shouldered hawk about 35 feet up in an elm tree. As a species whose eggs were still lacking in his notable collection, Mr. Eifrig (Vice President and chairman of Excursions in 1909) had me return with him on another day to climb the tree. The climb was duly made, two eggs were secured from the bereaved parents, and my sense of guilt was assuaged by the assurance that it was in the interest of science. I had probably never before indulged in bird's-nesting..." Mr. Groh appears to have given up nest robbery nearly sixty years ago -- shall we forgive him now?

STUDY GROUP : Dr. Bill Illman has offered to give guidance to Club members who wish to form a group for the study of horsetails, clubmosses and other spore plants. Anyone interested in learning more about such plants should call Sheila Thomson, 234-0845.

FLOWER BOOKS : The Editor has prepared a bibliography, briefly reviewing WILDFLOWER GUIDES suited to identification of our local plants, with prices and sources. Readers may obtain a copy on request. 749-2400.

FOR SALE (or WRENt ?) For only $2.50 each you can purchase bird houses for Wrens, Swallows and Robins, from the X-ray Department of Grace Hospital, 728-4611. Proceeds go to Grace Hospital Building Fund. Various models of bird feeders will be available in the fall.

BIG TREES : A committee is being formed to encourage the discovery of the biggest trees of each species growing in the Ottawa area. Details will be announced in the next issue of T & L. Those interested in this project can contact Harry Thomson at 234-0845.

ROCKS AND MINERALS FOR THE COLLECTOR: Sudbury to Winnipeg, by Ann P. Sabina. 69 pages, 75¢ (Queen's Printer catalog M44-63/18). Mary Stuart tells us, "This little booklet added greatly to my enjoyment of a trip along the Trans-Canada Highway, and particularly the portion that follows the north shore of Lake Superior."

MORE CABBAGE, ANYONE? Bill Holland writes "The name of bear weed was given by early Swedish settlers to skunk cabbage in the Philadelphia area. Seemingly bears relished this early spring plant, of which the juice is acrid, and was thought to have narcotic power, whilst that of the root when chewed caused failing eyesight." Grin and bear it!

EGG SPY: We have found a most useful device for counting bird's eggs and young can be made by mounting a small hand mirror on the end of a stick about three feet long. A tube that extends the handle another three feet allows you to cover nests up to 12 feet at least, and also allows a look in many nests over water whose depth usually is an inch or two over your boot tops. Although our model had the mirror mounted at a fixed angle, I think an adjustable one, such as a bicycle rear-view mirror, would help in many situations. Besides the benefits accruing to the nest-watcher, the nest owners suffer relatively small disturbance of their nest and the immediate surroundings. This is particularly valuable for Nest Record contributors who may visit nests repeatedly. (See page 46)...G.R. Hanes

continued from inside cover :

Sat. May 27: Early Morning Bird Walk. Vincent Massey Park, 6.30 a.m. Leader: Monty Brigham (728- 0855).

Sat. June 10: Excursion to the Carp Hills. This outing will feature pink lady's slippers, as well as other June wildflowers and birds. Meet at Health & Welfare Bldg., at 9 a.m. Bring a lunch.

Sat. June 24: Breeding Birds of Gatineau Park. Meet at Health & Welfare Bldg., at 6 a.m. Leaders: Monty Brigham (728-0855) and Ron Pittaway (684-5719).

Coming Events

Woodcock Territorial Flight: Members who would like to observe the Woodcock in its territorial flight performance, please call Hugh Schultz the first week in May (992-8073 or 733-3705). An evening excursion in second week of May will be arranged for those interested.

Tuesdays, May 2, 9, 16, 23: Early Morning Bird Walks. Meet at the carpark, Vincent Massey Park, at 6.30 a.m. Leaders: May 2, Brian Morin & John Kelly; May 9, Earl Godfrey; May 16, Ron Pittaway; May 23, Ron Bedford.

Thurs. May 4: Warbler Songs. A chance to refresh your memory before the main warbler migration reaches Ottawa. Gary Hanes will conduct this meeting, using warbler recordings. National Museum, Room 359, at 8 p.m.

Sat. May 6: Great Blue Herons on Flynn's Creek. Permission has again been obtained from the Superintendent of Gatineau Park to visit the heronry. Meet at the Health & Welfare Bldg., Tunney's Pasture, at 9 a.m. Leader: Harry Thomson (234-0845).

Sundays, May 7, 14, 21, 28: Ramsayville Marsh. Meet at 7 a.m. at CNR crossing on Anderson Road (see page 48). Frank Munro (746-8878) will be on hand each Sunday morning in May to assist newcomers in identifying the marsh birds.

Sat. May 13: Dawn Chorus. Under the direction of Monty Brigham (728-0855) and Ron Pittaway (684-5719) listeners will record the time each species begins singing, relative to sunrise, etc. Anyone seriously interested in learning bird songs is invited to take part. Meet at the restaurant at Shirley's Bay at 4 a.m. Thermos of hot coffee recommended.

Sat. May 20: Spring Flowers of Gatineau Park. This outing should provide an opportunity for wildflower photography. Meet at Health & Welfare Bldg., at 9 a.m. Bring a lunch. Leaders: Charlotte Dill (749-1575) and Mary Stuart (236-4956).

Continued on opposite page